

## ABSTRACT

Apparatus for projecting a line of light includes a linear array of diode-lasers arranged in a diode-laser bar. The apparatus includes an optical system. Components of the system include a plurality of lenses and array of cylindrical microlenses having  
5 the same spacing as diode-lasers in the diode-laser array. The microlens array is spaced at a distance from the diode-laser bar and aligned with the diode-laser bar such that the front focal plane of the microlens array is between the diode-laser bar and the microlens array. The optical system components are configured and arranged to project  
10 overlapping elongated images in a predetermined plane. The overlapping images form the line of light. The elongated images are images of cross-sections of beams from the diode-lasers where the beams are intersected by the front focal plane of the microlens array.

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